Arizona Department of Water Resources

Tucson Active Management Area

Low Water Use/ Drought Tolerant Plant List



Official Regulatory List for the Tucson Active Management Area Fourth Management Plan

> Arizona Department of Water Resources 1110 W. Washington St. Ste. 310 Phoenix, AZ. 85007 www.azwater.gov 602-771-8585



Arizona Department of Water Resources

Tucson Active Management Area

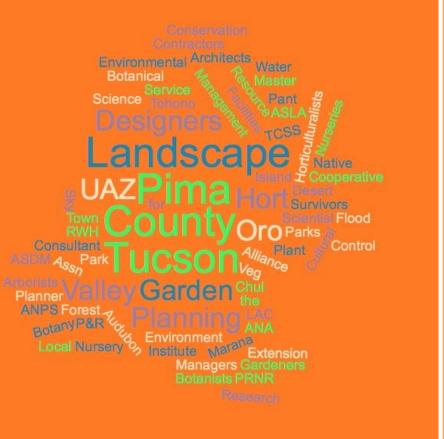
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Landscape Design West (APLD), AAA Landscaping, AMWUA, ANA, Arborist, UA Arboretum Founder, Arc Studio (PLA), Arid Lands Greenhouses, Arid Zone Trees, ASDM, ASDM – Botany, ASDM - horticulturist + LA, ASDM (Cons Research Scientist), ASIC, ASLA, ASLA, ASLA, LAC, Wheat Design Group, Author, Botanist Author, Botanist Author, Plant Biologist Author, RWH Consultant Author, Zona Gardens, AZ Sonora Desert Museum, B&B Cactus Garden/MesqVly, Bachs Greenhouse Cactus Nursery, Botanist, ASDM Curator Nat Hist, Boyce Thompson, Cactus Expert, TCSS Pres., Cactus Expert, TCSS VP, Civano Nursery, Clement Design (PLA), COT P&R, COT, LAC, ASLA Desert Horticulture, Desert Survivors, Desert Survivors (from Jen Becker), Design Collaborations PLA + ASLA Designer Dir., UAZ Arboretum, former TBG Exec. Dir. (& water person & former LAC member), Garden Designer, Artist Gardener, Tucson Botanical Gardens, GreenThings , Groundskeeper - Tucson N., Groundskeeper - Tucson S, Harlows Gardens, Harris Environmental, Hort. Mgr, Tucson Botanical Gardens, Institute of the Environment, Landscape Design West (APLD), LAC, LAC, Architect Lead Gardener, Tucson Botanical Gardens, Magic Garden Nursery, MSWN, Novak Environmental, NPS - Saguaro NP, Ecologist Nursery Owner - P4SW, NW Landscaping Contractor, Oro Valley Park Director, Oro Valley Planning, Oro Valley Water Conservation, P4SW, PC DS, PC RFCD, PCMasterGdner, Pima County Coop Extension, Pima County Native Plant Nursery, Plant person, Plant Science, UAZ Prof. Land Arch, Plant Ecology UAZ, RECON, ReCon, Red Bark Design (ASLA), retired Coop Ag agent, SERI, Silverbell Nursery, Sky Island Alliance, Sonoran Oasis Landscaping, SoWestVegMgt Assn., T4T Tohono Chul Park, Retired TDOT (PLA), TEP, TNC, Plant Ecologist Tohono Chul Park, Town of Marana Parks, Tucson Audubon Society, Tucson Botanical Garden, UA Planning & Facilities (PLA), UAZ Plant Science, USFS, WaterCASA, Westland Resources, Wheat Design Group, WMG

LOW WATER PLANT LIST - DROP RECOMMENDATIONS

TREES						
DROP	WU*	Botanical Name	Common Name	Plant Type	Origin	
XX	1	Acacia (Racosperma) craspedocarpa	Leather-Leaf Acacia	T/S	Aust	This is an old
XXX	2	Acacia aneura	Mulga	Т	Aust	not cold hardy
XXX	2	Acacia cultriformis	Knife Acacia	T/S	Aust	not cold hard
XXXXXXXX	2	Acacia salicina	Cooba	T	Aust	not cold hard
XXXX	2	Acacia saligna	Orange Wattle	T	Aust	Short-lived, h
XXX	2	Acacia stenophylla	Dalby Myall, Shoestring Acacia	T	Aust	Scabby looking
XXXX	3	Acca (Feijoa) sellowiana	Feijoa, Pineapple Guava	T/S	SA	high water; M
XXX XX	2	Allocasuarina verticillata	Drooping She-Oak	Т	Aust	Scabby looking
XX	2	Brachychiton populneus	Bottle Tree	Т	Aust	
X	3	Brahea armata	Mexican Blue Palm	Т	SD	change WU to
XXXX	3	Callistemon citrinus	Crimson Bottlebrush	T/S	Aust	Lemon Bottlei
XXXX	2	Casuarina cunninghamiana	River She-Oak	T	Aust	not cold hardy
X	3	Celtis reticulata	Netleaf Hackberry	T	SD, CD	change WU to
XXXX	3	Ceratonia siliqua	St. John's Bread Tree, Carob	T	Med	not cold hard
XXXX	3	Cercis canadensis var. mexicana	Mexican Redbud	T/S	CD	Underused wi
XXX	3	Chamaerops humilis	European Fan Palm	T, AC	EU	change WU to
XX	3	Chilopsis linearis	Desert Willow	T/S	SD, CD	Use native va
X	2	Condalia globosa	Bitter Snakewood	T/S	SD	not cold hardy
XX	2	Cordia boissieri	Anacahuita, Texas Olive	T/S	CD	aka Texas Oli
XXXX	3	Cupressus arizonica	AZ Cypress	T	SD, CD	High water, ba
X	3	Cupressus arizonica var. glabra	Smooth Bark Cypress	Т	SD	High water, but
xxxxxxxx	3	Dalbergia sissoo	Indian Rosewood	Т	India	not cold hardy somewhat inv
XX	2	Dermatophyllum secundiflorum	Mescal Bean	T/S	CD	Bot. Name? T
XX	2	Ebenopsis ebano	TX Ebony	T	CD	excellent ever
XXXXXXXXXXXXXX	3	Eucalyptus camaldulensis	River Redgum	T	Aust	Very large, ca
XXXXXXXXX	2	Eucalyptus campaspe	Silver-Top Gimlet	T	Aust	not cold hardy
XXXXXXXXX	2	Eucalyptus formanii	Forman's Eucalyptus	T	Aust	not cold hardy
XXXXXXXX		Eucalyptus leucoxylon 'Rosea'	Pink Ironbark			Change WU t
XXXXXXX	2	Eucalyptus microtheca	Coolibah	T	Aust	
XXXXXXX	2	Eucalyptus papuana	Ghost Gum	T	Aust	not cold hardy
XXXXXXX	2	Eucalyptus polyanthemos	Redbox	Т	Aust	too large, limb
XXXXXXXXX	2	Eucalyptus rudis	Western Austn Floodedgum	T	Aust	not cold hardy
XXXXXXXXX	2	Eucalyptus sargentii	Salt River Mallee	T	Aust	not cold hardy
XXXXXXX	2	Eucalyptus spathulata	Swamp Mallee	T	Aust	not cold hard
X	2	Eysenhardtia orthocarpa	Tahitian Kidneywood	Т	SD, CD	Tahitian, rally
YY	3	Eveenherdtie tevene	TY Kidneywood	Т	CD	1

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XXX	2	Acacia cultriformis	Knife Acacia	T/S	Aust	not cold hard
XXXXXXXX	2	Acacia salicina	Cooba	T	Aust	not cold hard
XXXX	2	Acacia saligna	Orange Wattle	T	Aust	Short-lived, h
XXX	2	Acacia stenophylla	Dalby Myall, Shoestring Acacia	T	Aust	Scabby looking
XXXX	3	Acca (Feijoa) sellowiana	Feijoa, Pineapple Guava	T/S	SA	high water; M
XXX	2	Allocasuarina verticillata	Drooping She-Oak	T	Aust	Scabby looking
XX	2	Brachychiton populneus	Bottle Tree	T	Aust	
X	3	Brahea armata	Mexican Blue Palm	Т	SD	change WU to
XXXX	3	Callistemon citrinus	Crimson Bottlebrush	T/S	Aust	Lemon Bottle
XXXX	2	Casuarina cunninghamiana	River She-Oak	T	Aust	not cold hard
X	3	Celtis reticulata	Netleaf Hackberry	T	SD, CD	change WU to
XXXX	3	Ceratonia siliqua	St. John's Bread Tree, Carob	T	Med	not cold hard
XXXX	3	Cercis canadensis var. mexicana	Mexican Redbud	T/S	CD	Underused w
XXX	3	Chamaerops humilis	European Fan Palm	T, AC	EU	change WU to
XX	3	Chilopsis linearis	Desert Willow	T/S	SD, CD	Use native va
X	2	Condalia globosa	Bitter Snakewood	T/S	SD	not cold hard
XX	2	Cordia boissieri	Anacahuita, Texas Olive	T/S	CD	aka Texas Oli
XXXX	3	Cupressus arizonica	AZ Cypress	T	SD, CD	High water, ba
X	3	Cupressus arizonica var. glabra	Smooth Bark Cypress	Т	SD	High water, ba
vvvvvvv	-	D-lh-seis sisses	Indian Decembed	т	landia.	not cold hard
XXXXXXXXX	3	Dalbergia sissoo	Indian Rosewood	'	India	somewhat inv
XX	2	Dermatophyllum secundiflorum	Mescal Bean	T/S	CD	Bot. Name? T
XX	2	Ebenopsis ebano	TX Ebony	Т	CD	excellent ever
XXXXXXXXXXXX	3	Fucalvatus car Ico I 4	I Farhillovilla livilua	I DIUD FAIL	verue	

XX	2	Ebenopsis eban
XXXXXXXXXXXX	3	Eucalyptus car
XXXXXXXX	2	Eucalyptus car.
XXXXXXXX	2	Eucalyptus for
XXXXXXXX		Eucalyptus leu
XXXXXXX	2	Eucalyptus mic
XXXXXX	2	Eucalyptus par
XXXXXXX	2	Eucalyptus pol
XXXXXXXX	2	Eucalyptus rud
XXXXXXXX	2	Eucalyptus sar
XXXXXXX	2	Eucalyptus spa
X	2	Eysenhardtia o
YY	3	Eveenhardtie ti

<u>~</u>	4	r arninovilla livriva	DIUG FAIU VOIGO		30	though; This tree is also having some issues, :
xxxx	2	Parkinsonia hybrid "Desert Museum"	Desert Museum Palo Verde	т	SD, CD	disease prone (witches broom); This hybrid is though; scale is killing this tree; stop planting!; and cured, it should not be used in the landsci
X	1	Parkinsonia microphylla	Yellow Palo Verde	T	SD	Change WU to 1; Usually called Foothill or Litt
XX	2	Parkinsonia praecox	Palo Brea	T	SD	This tree is also having some issues, similar to
XXX	1	Parkinsonia x sonorae	Sonoran Palo Verde	T	SD	Change WU to 1; PV disease problems
XXX	2	Phoenix canariensis	Canary Island Date Palm	T	No AF	not cold hardy enough
XX	2	Phoenix dactylifera	Date Palm	T	Asia	
XXXXXXX	2	Pinus brutia var. eldarica	Afghan Pine	T	Asia	Trash Tree, bark and insect issues that can ca
XXX	2	Pinus edulis	Two Needle Pinyon	T	AZ, NM	Pinon
XXXXXXX	2	Pinus halepensis	Aleppo Pine	T	Med	Disease prone (beetle) due to high water need
XXX	2	Pinus monophylla	Singleleaf Pinyon Pine	T	NAZ	Singleleaf Pinon Pine
XXXX	2	Pinus pinea	Italian Stone Pine	T	Med	
XXXXX	3	Pinus roxburghii	Chir Pine	T	Asia	
XXXX	2	Pistacia atlantica	Mt. Atlas Mastic Tree	T	Med	Change WU to 2; Mt. Atlas Pistacia
XXXX	3	Pistacia atlantica x integerrima	Red Push Pistache	T	Asia	I would change this to a 2 for water
XXXX	3	Pistacia chinensis	Chinese Pistache	T	Asia	
X	2	Pistacia vera	Pistachio Nut	T	Asia	
XXX	2	Pittosporum phillyraeoides	Willow Pittosporum	T	Aust	
XXX	2	Prosopis hybrid	San Mesquite	T	SA	and cultivars; Hybrid mesquites are invasive; §
X	2	Prosopis glandulosa	Honey Mesquite	T	CD	
XX	2	Prosopis pubescens	Screwbean Mesquite	T	SD, CD	
	2	Prosopis velutina	Velvet Mesquite	T	SD	1??; best native tree in our region
X	3	Punica granatum	Pomegranate	T/S	India	
X	3	Quercus arizonica	AZ White Oak	T	SD, CD	Super high water usage
XXXXXXX	3	Quercus buckleyi	TX Red Oak	T	W TX	I would think the WU for these oaks would var

REEA	ווסס	TIONS				
	WU*	Botanical Name	Common Name	Plant Type	Origin	
	2	Acacia aneura 'Cold Snap'	Cold Snap Mulga	T	Aust	
	2	Acacia brachystachya	Umbrella Wattle	T/S	Aust	
	2	Acacia cavenia	Cavenia Acacia	Т	SD, CD	
		Acacia constricta				
	1	Acacia ebumia	Needle Acacia	Т	SD, CD	
XX	2	Acacia farnesiana Sweet Sierra™	Sweet Sierra Acacia (podless)	Т		
	2	Acacia minuta (smallii)	Southwestern Sweet Acacia	T,S,	SD, CD	Г
		Acacia occidentalis	Big Acacia	Т	Son and s.	Г
XX	3	Acacia pendula	Weeping Myall	Т	Aust	Г
	2	Acacia pruinocarpa	Black Gidgee	T/S	Aust	Г
	1 or 2	Acacia schaffneri	Twisted Acacia	Т	CD	Г
XX	1 or 2	Acacia willardiana	Palo Blanco	Т	SD	
	2	Bauhinia forticata	White Butterfly Orchid Tree		SA	
	2	Bauhinia lunarioides	Anacaho Orchid	Т		
		Brachychyton rupestris	Queensland Bottle Tree	Т	Aus	Г
	1	Bulnesia retama	Retama	T/S	SA	
XX	1 or 2	Bursera microphylla	Elephant Tree	T/S	SD	
	2	Caesalpinia mexicana 'Big Bird'	Big Bird Mexican Bird of Paradise	Т	SD	
		Celtis palida	Desert Hackberry			
	2	Cercis canadensis var. texensis	Texas red bud	Т		
	2	Chil.linearis LOPUR PPAF	Desert Diva™	Т		Г
	3	Chitalpa 'Morning Cloud'	Morning Cloud Chitalpa	Т		Г
		Charles and since and C incipals	Cilly flagge trap	-	Dale Ara	\vdash

TREE A	DDI	TIONS	
	WU*	Botanical Name	Common Name
	2	Acacia aneura 'Cold Snap'	Cold Snap Mulga
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	2	Acacia cavenia	Cavenia Acacia
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		Brachychyton rupestris	Queensland Bottle Tree
	1	Bulnesia retama	Retama
XX	1 or 2	Bursera microphylla	Elephant Tree
	2	Caesalpinia mexicana 'Big Bird'	Big Bird Mexican Bird of Pa
		Celtis palida	Desert Hackberry
	2	Cercis canadensis var. texensis	Texas red bud
	2	Chil.linearis LOPUR PPAF	Desert Diva™
	3	Chitalpa 'Morning Cloud'	Morning Cloud Chitalpa
		Charles annelses and C incients	Oille flaga traa

	2	Eremophila hygrophana	Blue Bells™ Emu	S	Austr.
XX		Erythrina flabelliformis	Coralbean	S	CD
701		Evolvulus arizonica	Arizona blue eyes	s	SD
XXXX	1 or 2	Fallugia paradoxa	Apache plume	S	SD
/////	1 or 2	Forestiera neomexicana	Desert Olive	s	SD
		Fouquieria spiendens		-	
XXXX			Desert cotton	S	SD
7000		Gossypium thurberi	Apache plant	S	SW
		Guardiola platyphylla Haplophyton crooksii	Cockroach plant	s	SD
		Hibiscus biseptis		-	
XX		Hibiscus coulteri	Coulter's hibiscus	S/P	SD
XXX	2	Hibiscus denudatus	Rock Hibiscus	S	SD
^^^	-		Burroweed	s	- C
		Isocoma tenuisecta Jacquemontia pringlei	Pringle's clustervine	s	SD
		Jatropha cuneata	Limberbush	S	SD
		Justicia california	Limberoush	3	3U
		Justicia longii			
		Justicia sonorae			
		Koeberlinia spinosa			
XX		Lyclum berlandleri	Berlandier's wolfberry	S	
	1	Lyclum brevipes	Baja Wolfberry	S	SD
		Lysiloma watsoni			
	3	Malvaviscus arborea	Turk's Cap	S	TX
		Nerium oleander			
		Parthenium incanum	Mariola		
	3	Phlomis fruticosa	Jerusalem sage	S	Med
XX		Pluchia sericea	Arrowweed	S	SD
		Plumbago scandens	White Desert Plumbago	S	
		Psorothamnus spinosus			
	1	Salvia aplana	White Sage	S	SD, CA
		Salvia parryi			
	1	Salvia X	Carl Nielson Sage	s	
	1	Senna aphylla	Leafless Senna	S	SA
XX	2	Solanum hindsianum	Baja/Sonoran Nightshade	S	SD
XX	2	Tecoma hybrids		S	
XX	2	Tithonia fruticosa	Mexican Tree Sunflower	S	SD, Mex
	2	Vachellia schottii	Schott's Acacia	s	CD
	2	Vachellia vernicosa	Chihuahuan whitethorn	s	CD
XXXX		Vauquelinia californica	Arizona rosewood	S	SD
7000	3	Viguiera deltoidea	Goldeneye	s	SD
XXXXX	1	Ziziphus obtusifolia	Graythorn	S	SD, SW
VVVVVV		Leucophyllum laevigatum	Chihuahuan Sage		53,011
	1	Coursetia glandulosa	Coursetia		
	<u> </u>	Acacia hedandina	Graillo		

Plant

Type T

T/S

Т

Т

Origin

Aust

Aust

SD, CD

SD, CD

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ARIZONA DEPARTMENT OF WATER RESOURCES

1110 W. Washington St. Suite 31 Phoenix, AZ 85007 Telephone (602) 771-8585

APPLICATION FOR MODIFICATION OF THE LOW WATER USE/DROUGHT TOLERANT PLANT LIST

2. Plant to be considered for					
GENUS	SPECIES	CULTIVAR	COMMON NAME		
3. ADDITION	DELETION				
4. Type of Plant Groundcover Annual Widthower Grass 5. Hardiness in Phoenix: Tender Tolerates Frost 6. Light Requirements: Full Sun Partial Shade	Shrub Succulent Perennial Wildflower Vines Semi-Tender	rainfall sufficient) [Requires deep year for best growth a [Requires regul for growth and accept] 9. Intended Irrigatio [Drip [Flood [Natural Precipi [Sprinkler] [Other	pplemental irrigation (normal irrigation several times each nd appearance ar but widely spaced irrigation able appearance. n Method:		
7. Area of Intended Use: [] Rest Stop [] Other	[] Median Strip	(Specify)		Signature	Date
How soon do you intend to Describe your past experi How is the plant propagate.	ence in working with this plant. I	low long has it been grown	in Phoenix?	RESOURCES IT AREA LIST IN PROCESS	
13. Is the plant generally ava 14. Briefly describe why you	ilable? YES NO feel this plant should be added/de	eleted from the low water u	sing plant list.	esources as a regulatory docu	ment in both the
				nt Plan: 2000 – 2010, "The m discaping plants planted on or curb or shoulder that is used it sendix 5-L. The director may e municipal provider or indiv dix 5-L. Low Water Use Plan	after January 1, 1987 for travel in any waive this idual user

set an example for the public by landscaping these highly visible areas with low water use plant materials

ise plant list, cannot grow in the publicly owned way underpass. This requirement does not apply to

LIST DEVELOPMENT

The Low Water Using Plant List for the Phoenix AMA was compiled by the Department in cooperation with the Arizona Municipal Water User's Landscape Technical Committee (AMWOA LTC). The committee is comprised of experts from the Desert Dominical Gardens, Airona Department of Transportation and various unserspress and landscape specialists from the

A person who seeks to add a plant or plants to the Low Water Using Plant List for an AMA or to delete a plant or plants from the list may apply at any time to the Director of the Department of Water Resources for a modification of the list. Application forms for modification to the list are available from the AMA. Applications are reviewed by the AMWUA LTC for possible addition or deletion to the list. The applicant is invited to attend the meeting to discuss their proposed addition(s) or deletion(s).

Information on actual consumptive use of landscape plants is currently not available. Therefore, the recommendation of the AMWUA LTC is based on a review of how the plant performs in limited water use conditions and its ability to rejuvenate itself,

Recommendations from the AMWUA LTC are forwarded to the Director for determination. The revisions to the list are then published in an addendum and/or incorporated into the list. The modification process takes 30-60 days upon receipt of the

Request to Waive the Requirement

Pursuant to the Fourth Management Plan for the Tucson Active Management Area sections 5-709(A)(3) and 6-1302(4), the director may waive the requirement to use plants on the low water use/drought tolerant plant list if the water user demonstrates to the satisfaction of the director that the plants on the list cannot grow in a publicly owned right-of-way because of high elevation or low light conditions, such as a freeway underpass. Those who wish to request a waiver should submit their request in writing or by email to:

Einav Henenson, AMA Director Arizona Department of Water Resources 1110 W. Washington St., Ste. 310 Phoenix, AZ 85007 ehenenson@azwater.gov

The following information should be included:

Description of the location of the publicly owned right-of way

Map showing the location of the right-of way and the place where plants will

be located

Scientific and common name of the plant under consideration Description of plant's water needs, including references